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(FILE 'HOME' ENTERED AT 18:33:00 ON 22 JUN 2005)

FILE 'BIOSIS, CAPLUS, EMBASE, MEDLINE, CANCERLIT, JAPIO' ENTERED AT 18:33:21 ON 22 JUN 2005

L1	1100	S (MUSCLE DAMAGE) AND PROTEIN
L2	97	S L1 AND REVIEW?
L3	65	DUPLICATE REMOVE L2 (32 DUPLICATES REMOVED)
L4	16	S L3 AND CARDI?
L5	12	S L3 AND MARKER?
L6	12	DUPLICATE REMOVE L5 (0 DUPLICATES REMOVED)
L7	5	S L6 NOT L4
L8	68	S (MUSCLE MARKER?) AND REVIEW
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ANSWER 20 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1996:172781 CAPLUS
DN 124:256308
ED Entered STN: 26 Mar 1996
TI Muscle proteins
AU Larue, Catherine
CS Sanofi Diagnostics Pasteur Inc., Chaska, MN, USA
SO Structure of Antigens (1996), Volume 3, 183-219. Editor(s): Van Regenmortel, M. H. V. Publisher: CRC, Boca Raton, Fla.
CODEN: 57YWAS
DT Conference; General Review
LA English
CC 13-0 (Mammalian Biochemistry)
AB A **review** with approx. 150 refs. on various muscle proteins, including myosin, actin, and regulatory proteins. Topics discussed include structure, isoforms, antigenicity, variation, **muscle markers**, and diagnosis of muscle tumors and neuromuscular diseases.
ST **review** protein muscle
IT Muscle
(structure, isoforms, antigenicity, and variation of proteins in muscle)
IT Proteins, biological studies
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(structure, isoforms, antigenicity, and variation of proteins in muscle)

ANSWER 3 OF 5 EMBASE COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED.
on STN

AN 1999255218 EMBASE

TI Skeletal muscle injury induced by eccentric muscle action: Muscle **proteins** as **markers** of muscle fiber injury.

AU Sorichter S.; Puschendorf B.; Mair J.

CS Dr. S. Sorichter, Universitatsklinikum Freiburg, Abteilung fur Pneumologie, Hugstetter Strasse 55, 79106 Freiburg, Germany

SO Exercise Immunology Review, (1999) Vol. 5, pp. 5-21.
Refs: 100
ISSN: 1077-5552 CODEN: EIREFY

CY United States

DT Journal; General Review

FS 002 Physiology

LA English

SL English

ED Entered STN: 19990812
Last Updated on STN: 19990812

AB Muscular overuse after high force eccentric muscle action is associated with structural damage of the contractile apparatus that can be observed as Z-line steaming and myofibrillar disruption. Mechanical stress is the major contributing factor for inducing muscle injury, which initiates a cascade of processes resulting in skeletal **muscle damage** . Disturbances in Ca2+ homeostasis with elevated intracellular [Ca2+] activates the nonlysomal cysteine protease, calpain. Calpain is assumed to play an important role in triggering the response of skeletal muscle **protein** breakdown, of inflammatory changes, and of regeneration processes in response to eccentric muscle action. The inflammatory response is attributed to changes in hormone and cytokine levels in blood and skeletal muscle. To assess the amount of skeletal **muscle damage**, plasma CK activity and plasma myoglobin levels have been widely used as **markers** for muscle injury. As the cytosolic **proteins** do not necessarily reflect the amount of structural damage, structurally bound **proteins** such as myosin heavy chains and troponin have been investigated. This paper briefly **reviews** the cascade of events causing muscle cell injury after unaccustomed eccentric muscle action and the potential of muscle **proteins** as **markers** of skeletal **muscle damage**.

CT Medical Descriptors:
*skeletal muscle
*muscle contraction
*muscle injury
muscle fibril
mechanical stress
calcium homeostasis
cytokine release
muscle strength
cell infiltration
nuclear magnetic resonance imaging
review
Drug Descriptors:
*troponin
*myosin heavy chain
*myoglobin
calcium
calpain
cysteine proteinase
muscle protein
aspartate aminotransferase: EC, endogenous compound
lactate dehydrogenase: EC, endogenous compound
creatine kinase: EC, endogenous compound
fatty acid binding protein: EC, endogenous compound

RN (calcium) 7440-70-2; (calpain) 78990-62-2; (cysteine proteinase)

37353-41-6; (aspartate aminotransferase) 9000-97-9; (lactate dehydrogenase) 9001-60-9; (creatine kinas

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ANSWER 21 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1996:82511 CAPLUS
DN 124:197264
ED Entered STN: 08 Feb 1996
TI Noninvasive quantification of organ damage
AU Lefebvre, H. P.; Braun, J. P.; Laroute, V.; Tripodi, A.; Bret, L.; Toutain, P. L.
CS Departement des Sciences Biologiques et Fonctionnelles, Ecole Nationale Veterinaire, Toulouse, 31076, Fr.
SO Comparative Haematology International (1995), 5(2), 120-4
CODEN: CHAIEX; ISSN: 0938-7714
PB Springer
DT Journal; General Review
LA English
CC 9-0 (Biochemical Methods)
Section cross-reference(s): 14
AB A **review** and discussion with 23 refs. Quant. evaluation of organ damage can be achieved by noninvasive, direct or indirect methods. Direct methods include echog., tomog., scintigraphy and magnetic resonance. The accuracy of these imaging techniques has been demonstrated in human medicine. Most of them have not been validated in animals, however, and their use is limited by cost. Indirect methods are based on determination of the total release of intracellular markers (mainly enzymes) into body fluids. Quantification of organ damage depends on extracellular disposition of the marker. Thus, in the kidney, the marker is directly and totally leaked into the urine and is voided at each micturition. The amount of marker eliminated in this way allows easy quantification of organ damage occurring during the period preceding the micturition. **Muscle markers** with mol. wts. >50 kDa reach the blood via the lymph. This results in (a) partial inactivation, (b) delay between cell damage and increased plasma concentration and (c) accumulation in the plasma as long as delivery into the plasma exceeds clearance. In such cases, quant. evaluation requires pharmacokinetic tools and calcn. of the area under the curve (concentration vs. time) and of the plasma clearance. Comparison of the intensity and chronol. of markers located in different cell compartments may contribute to the understanding of pathophysiol. events.
ST **review** organ damage noninvasive detn clin; kidney damage noninvasive detn **review**; muscle damage noninvasive detn **review**
IT Animal tissue
Organ
(damage; noninvasive quantification of organ damage)
IT Imaging
(noninvasive quantification of organ damage)
IT Analysis
(clin., noninvasive quantification of organ damage)
IT Kidney, disease
Muscle, disease
(injury, noninvasive quantification of organ damage)

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Muscle, disease
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